

ABSTRAK

Raja amin rais, NIM 4183321027 (2022). Pengaruh Model Pembelajaran *Discovery Learning* Berbantuan *PhET Simulation* Terhadap Hasil Belajar Siswa pada Materi Momentum dan Impuls di Kelas X SMA N 1 Kualuh Leidong.

Penelitian ini bertujuan mengetahui hasil belajar siswa menggunakan model pembelajaran konvensional dan mengetahui pengaruh model pembelajaran *discovery learning* berbantuan *Physic Education Technology (PhET) simulation* terhadap hasil belajar siswa. Jenis penelitian yg digunakan adalah *quasi eksperimen* dengan populasi siswa kelas X IPA SMA N 1 Kualuh Leidong yang berjumlah 4 kelas. Sampel penelitian terdiri dari dua kelas, kelas yang diambil yaitu X IPA I sebagai kelas eksperimen dan X IPA II sebagai kelas kontrol. Instrumen yang digunakan yaitu tes hasil belajar berbentuk pilihan berganda sebanyak 20 butir soal dengan lima pilihan jawaban telah dinyatakan valid oleh validator. Berdasarkan hasil penelitian diperoleh nilai rata-rata *pretest* kelas eksperimen 31,805 dan hasil *pretest* kelas kontrol 28,75. Hasil pengujian hipotesis diperoleh $t_{hitung} < t_{tabel}$ yaitu $1,047 < 1,666$ pada taraf signifikan $\alpha = 0,05$ dan $dk = 70$, dinyatakan h_0 diterima atau kedua kelas memiliki kemampuan awal yang sama. Diberi perlakuan kemudian rata-rata *posttest* kelas eksperimen sebesar 71,25 dan kelas kontrol sebesar 63,05. Hasil pengujian hipotesis $t_{hitung} > t_{tabel}$ yaitu $3,294 > 1,998$ pada taraf signifikan $\alpha = 0,05$ dan $dk = 70$, dinyatakan bahwa h_a diterima berarti ada perbedaan hasil belajar siswa setelah diberikan perlakuan model pembelajaran *discovery learning* berbantuan *PhET simulation* pada kelas eksperimen. Model pembelajaran *discovery learning* berbantuan *Physic Education Technology (PhET) simulation* berpengaruh terhadap hasil belajar siswa.

Kata kunci : *Discovery learning, PhET simulation, hasil belajar.*



ABSTRACT

Raja Amin Rais, NIM 4183321027 (2022). The Effect of PhET Simulation-Assisted Discovery Learning Learning Model on Student Learning Outcomes on Momentum and Impulse Materials in Class X SMA N 1 Kualuh Leidong.

This study aims to determine student learning outcomes using conventional learning models and determine the effect of discovery learning learning models assisted by Physic Education Technology (PhET) simulation on student learning outcomes. The type of research used is a quasi-experimental with a population of all students of class X SMA N 1 Kualuh Leidong, totaling 4 classes. The research sample consisted of two, the classes taken were X IPA I as the experimental class and X IPA II as the control class. The instrument used is a test of learning outcomes in the form of multiple choice as many as 20 items with five answer choices that have been declared valid by the validator. Based on the results of the study, the average pretest value for the experimental class was 31,805 and the pretest result for the control class was 28,75. The results of hypothesis testing obtained $t_{count} < t_{table}$ that is $1.047 < 1.666$ at a significant level = 0.05 and $dk = 70$, it is stated that h_0 is accepted or both classes have the same initial ability. After being treated, the average posttest for the experimental class was 71.25 and the control class was 63.05. The results of testing the hypothesis $t_{count} > t_{table}$ are $3,294 > 1,998$ at a significant level = 0.05 and $dk = 70$, it is stated that h_a is accepted, meaning that there are differences in student learning outcomes after being given treatment with discovery learning learning models assisted by PhET simulation in the experimental class. The learning model of discovery learning assisted by Physic Education Technology (PhET) simulation has an effect on student learning outcomes.

Keywords: Discovery learning, PhET simulation, learning outcomes.

